

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	)	
Rodney Fulton	)	Grp./A.U.: 3635
	)	Conf. No.: 3389
	)	Examiner:
Appl. No.: 10/679,072	)	Ryan D. Kwiecinski
Filed: October 3, 2003	)	
	)	Appeal No:
Invention: Apparatus for Venting of	)	
Protective Panels	)	

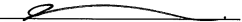
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BRIEF OF APPELLANT

This is an appeal from the final rejection of the Examiner dated October 30, 2008, rejecting Claims 1-9, 13, 15, 16, 21 and 23, all of the pending and non-withdrawn claims in this case. This Brief is accompanied by the requisite fee set forth in 37 C.F.R. § 41.20(b)(2).

**CERTIFICATE OF ELECTRONIC TRANSMISSION**

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office via EFS-Web on this 25<sup>th</sup> day of March, 2009.

  
Jason R. Jenkins – Reg. No. 56,208

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REAL PARTY IN INTEREST

The instant application has been assigned to Bovard Studio, Inc., located at 2281 Highway 34 East, Fairfield, Iowa, 52556-8560.

## RELATED APPEALS AND INTERFERENCES

No other related appeals or interferences have been filed or are pending.

## STATUS OF CLAIMS

The status of the claims as set out in the Claim Appendix is as follows:

claims 1-9 are rejected;

claims 10-12 have been withdrawn;

claim 13 is rejected;

claim 14 has been canceled;

claims 15 and 16 are rejected;

claim 17-19 have been withdrawn;

claim 20 has been canceled;

claim 21 is rejected;

claim 22 has been withdrawn;

claim 23 is rejected;

the rejections of claims 1-9, 13, 15, 16, 21 and 23 are on appeal herein.

#### STATUS OF AMENDMENTS

No amendments have been filed after the Final Office Action dated October 30, 2008. All amendments have been entered. The claims as set out in the Appendix include the most recent amendments to the claims.

## SUMMARY OF CLAIMED SUBJECT MATTER

Broadly speaking, the present invention is a means for providing adequate ventilation for protective panels or covers used for protecting ornamental windows such as stained glass.

Claims 1, 6 and 9 are independent claims. Support for each element of each independent claim and dependent claims thereto is provided in the original specification.

### Claim 1:

Claim 1 describes an apparatus for venting ornamental windows covered by a protective panel, the apparatus comprising a stained glass window 3, a protective panel 2, a framing element 1, and at least one airspace 4 between the window 3 and the protective panel 2. (Page 8, lines 3-5; Figs. 1, 2). The apparatus also comprises venting means 5 comprising an entry vent opening 50 on the outside of the apparatus and an exit vent opening 51 vertically spaced above and on the outside of the apparatus. (Page 8 line 22-Page 9, line 11; Figs 1, 2). Entry vent opening 50 comprises a first path 54 causing a first directional turn upwards and a first interior vent opening 52 vertically spaced above entry vent opening 50 and causing a second directional turn to the airspace 4. (*Id.*; see also Figs. 3, 4). Exit vent opening 51 comprises a second path 59 causing a first directional turn and a second interior vent opening 53 vertically spaced below exit vent opening 51 and causing a second directional turn to the airspace 4 for facilitating upwards airflow in the airspace. (*Id.*; see also Figs. 5, 6).

### Claims 2-5:

Claims 2-5 depend directly or indirectly from Claim 1.

Claim 2 adds the requirements that entry vent opening 50 further comprises a

first area, that exit vent opening 51 further comprises a second area, that first interior vent opening 52 comprises a third area and that second interior vent opening 53 comprises a fourth area. (Page 9, lines 19-21). Claim 2 further requires that first path 54 comprises a first cross sectional area, that second path 59 comprises a second cross sectional area, that the first area at least equals the first cross sectional area, that the first cross sectional area does not exceed the third area, that the second area at least equals the second cross sectional area, and that the second cross sectional area does not exceed the fourth area for facilitating adequate rate and volume of airflow. (Page 9, line 21-Page 10, line 18).

Claim 3 adds to claim 2 the requirement that the first area equals at least one square inch for each about 2000 to 2500 square inches of ornamental window 3 to be vented. (Page 10, lines 10-12).

Claim 4 adds to claim 3 the further requirement of entry vent opening 50 being covered by a screen such that it has an effective first area 50a of 66% such that the first area at least equals 1.66 square inches for each about 2000 to 2500 square inches of ornamental window 3. (Page 11, lines 5-10).

Claim 5 further requires first interior vent opening 52 to be spaced vertically above entry vent opening 50 to prevent entry of rainwater into airspace 4. (Page 9, lines 8-10; Figs. 3, 4).

Claim 6:

Claim 6 describes an apparatus for venting ornamental windows covered by a protective panel comprising a stained glass window 3, a protective panel 2, a framing element 1, at least one airspace 4 between window 3 and protective panel 2. (Page 8,



lines 3-5; Figs. 1, 2). The apparatus also comprises venting means 5 comprising a plurality of pairs of vent openings 50, 51, each pair being positioned in a vertical portion of framing element 1 with an exit vent opening 51 spaced vertically above an entry vent opening 50, entry vent opening 50 venting directly to air outside the apparatus and having a first area, and exit vent opening 51 venting directly to air outside the apparatus having a second area. (Page 8, line 22-Page 9, line 20). Each entry vent opening 50 comprises a first path 54 causing a first directional turn and a first interior opening 52 spaced vertically above entry vent opening 50 and causing a second directional turn and each exit vent opening 51 comprises a second interior opening 53 causing a directional turn and a second path 59 causing a directional turn. (Page 9, lines 2-8). For each entry vent opening 50, first interior opening 52 comprises a third area; for each exit vent opening 51, each second interior opening 53 comprises a fourth area; each first path 54 comprises a first cross-sectional area and each second path 59 comprises a second cross-sectional area. (Page 9, line 19-Page 10, line 3).

Claims 7 and 8:

Claims 7 and 8 depend, directly and indirectly, from claim 6.

Claim 7 adds the requirement that, for each entry vent opening 50, first area at least equals first cross sectional area, first cross sectional area does not exceed third area, and a sum of all first areas is at least one square inch for every 2000-2500 square inches of ornamental window 3 for facilitating adequate rate and volume of airflow. (Page 10, lines 9-18).

Claim 8 adds to claim 7 the requirement that, for each exit vent opening 51, fourth area at least equals second cross sectional area and second cross sectional area

does not exceed second area. (*Id.*).

Claim 9:

Claim 9 describes an apparatus for venting ornamental windows covered by a protective panel comprising a stained glass window 3, a protective panel 2, at least one framing element 1, and at least one airspace 4 between window 3 and protective panel 2. (Page 8, lines 3-5; Figs. 1, 2). The apparatus further comprises venting means 5 comprising at least one pair of vent openings 50, 51, each pair comprising an entry vent opening 50 having a first area and an exit vent opening 51 having a second area and spaced vertically above said entry vent opening. (Page 8, line 22-Page 9, line 20). Each entry vent opening 50 comprises a first proximal path 55 causing a first directional turn and having a first proximal cross section, a first inside opening 58 causing a second directional turn, a first distal path 56 having a first distal cross section and a first interior opening 52 vertically spaced above entry vent opening 50 all for allowing air to flow into airspace 4. (*Id.*; see also Figs. 3, 4). Each exit vent opening 51 comprises a second proximal path 60 causing a first directional turn and having a second proximal cross section, a second inside opening 62 causing a second directional turn, a second distal path 61 having a second distal cross section and a second interior opening 53 vertically spaced below exit vent opening 51 for allowing air to flow out of airspace 4. (*Id.*; see also Figs. 5, 6). First interior opening 52 comprises a third area and second interior opening 53 comprises a fourth area, first inside opening 58 comprises a fifth area, and second inside opening 62 comprises a sixth area. (Page 9, line 19-Page 10, line 3). For each entry vent opening 50, first area does not exceed first proximal cross sectional area, fifth area at least equals first proximal cross sectional area, first distal cross

sectional area at least equals fifth area, and third area at least equals said first distal cross sectional area. (Page 10, line 17-Page 11, line 4). For each exit vent opening 51, fourth area does not exceed second distal cross sectional area, sixth area at least equals second distal cross sectional area, second proximal cross sectional area at least equals sixth area, and second area at least equals second proximal cross sectional area for facilitating adequate rate and volume of flow to minimize the effects of extreme temperatures and of bacterial damage. (*Id.*).

Claims 13, 15, 16, 21 and 23:

Claims 13, 15, 16, 21 and 23 depend directly or indirectly from claim 9.

Claim 13 adds the requirements that at least one framing element 1 is a perimeter frame which holds only protective panel 2 and that airspace 4 is defined by a separation between protective panel 2 and ornamental window 3. (Page 8, lines 17-20).

Claim 15 adds the requirement that at least one of entry vent openings 50 includes a debris deterring accessory 32. (Page 9, lines 14-16; Fig. 7).

Claim 16 adds to claim 15 the requirement that debris deterring accessory 32 is a screen. (*Id.*).

Claim 21, similar to claim 15, adds to claim 13 the requirement that at least one entry vent opening 50 includes a debris deterring accessory 32. (*Id.*).

Claim 23 adds to claim 13 the requirement of at least one screen 32 proximal one of entry vent opening 50 for deterring entry of debris. (*Id.*).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 6 and 9 are unpatentable under 35 USC § 103(a) over US Pat No. 5,299,399 to Baier et al. in view of US Pat No. 5,993,925 to Zoccole.

Whether claims 3 and 7 are unpatentable under 35 USC § 103(a) over Baier et al. in view of Zoccole.

Whether claim 4 is unpatentable under 35 USC § 103(a) over Baier et al. and Zoccole in further view of US Pat No. 4,656,803 to Chludil.

## ARGUMENT

In the Final Office Action, the Examiner has rejected claims 1-3, 5-9, 13, 15 and 21 under 35 USC § 103(a) over US Pat No. 5,299,399 to Baier et al. ("Baier et al." or "Baier") in view of US Pat No. 5,993,925 to Zoccole ("Zoccole"). The Examiner has also rejected claims 4, 16 and 23 under 35 USC § 103(a) over Baier et al. in view of Zoccole and further in view of US Pat No. 4,656,803 to Chludil ("Chludil").

### Rejections under 35 USC § 103(a) over Baier et al. and Zoccole

#### Claims 1, 6 and 9

Because the cited references do not, individually or in combination, teach all of the limitations of independent claims 1, 6 and 9, Appellant submits that the rejections of claims 1, 6 and 9 under 35 USC § 103(a) were improper and should be reversed. Claims 2-5 each depend from claim 1, claims 7-8 each depend from claim 6, and claims 13, 15, 16, 21 and 23 each depend from claim 9. Hence, claims 2-5, 7-8, 13, 15, 16, 21 and 23 stand or fall with their respective base claims.

A critical and claimed aspect of the present invention was not fully addressed by the Examiner. This aspect is claimed in subpart (f) of claims 1, 6 and 9, respectively, and is generally noted as the "second directional turn". See CLAIMS APPENDIX. This aspect is the fundamental and very important difference between Baier and the present invention.

Appellant's present disclosure contemplates a vent structure – usually internal to the frame 1b – where air traveling into venting means 5 is moving horizontally (axis X in a three-dimensional model) and turns about 90 degrees upwardly into a vertical direction via entry vent opening 50 (axis Y). (See Specification at pages 8-10,

describing the requisite vertical path). Air travels a distance and then is turned a second time into a horizontal direction that is about 90 degrees from the original horizontal (axis Z), where it flows through first interior vent opening 52 into airspace 4. (*Id.*; see also Figs. 3, 4, illustrating the second directional turn).

Referring to Fig. 2 of Baier et al., Baier's invention is a vent structured generally as an "L" where air traveling from left to right (e.g., horizontally) enters the vent structure via passageway 46, is then turned in upward (e.g., vertically) in the vicinity of U-shaped channel 38 and exits directly into insulating air chamber 34 via breather sleeve 40 while still flowing in a vertical direction. At page 3 of the Final Office Action, Examiner summarily concludes that "air enters the [Baier] vent and makes a first turn upwards and the second turn into the airspace." Examiner reiterates this belief at page 14, in his Response to Arguments. Yet, only a single turn is shown in Figs. 2, 4 and 5 of Baier, as air travels directly into air chamber 34 after making a single turn within breather sleeve 40.

Unlike Baier, Appellant's disclosure requires the vent to open to the air directly in order for the mathematical relationships disclosed to provide the requisite flow to protect the special elements of a stained glass window. Further, because of this requirement, the path of the air must be turned twice to move it to airspace 4 between stained glass window 3 and protective panel 2 and to prevent rain water from entering the frame rather than turning the air only once as shown by Baier. Finally, and again contrary to the teaching of Baier, for the present invention at least one interior opening and the exterior opening for each vent must be sized and aligned appropriately in order to accomplish the airflow necessary to preserve the ornamental window.

By its very structure, Baier teaches away from the advantage of the present invention which is placed in a vertical portion of a frame and includes a directional turn of air into an internal, vertical pathway that facilitates upward movement of air within the vertical portion of the frame upon its entry. This, in turn, facilitates upward flow of air and exchange of air from within the space between the protective panel and the stained glass to the outside. (See Specification at page 4). The structure of the present invention, unlike Baier, provides air flow that reduces the growth of bacteria by reducing moisture, and further guards against large swings in temperature and the ensuing structural damage resulting therefrom.

Moreover, Baier specifically teaches away from directly venting to the outside air. Instead, Baier's structure vents from a space created between metal cladding and the glazing panel as a means to deter dirt and bugs. (See '399 at Col. 2, lines 26-28, 37-40, and 49-53). Baier expressly teaches that passageway 46 must be "very narrow further restricting entry of insects". (*Id.*). Appellant, on the other hand, teaches that, in addition to the need to have corresponding entry and exit vents 50, 51 having three directional turns to accommodate opening directly to the outside that are spaced vertically from one another and move air in similar rates and volumes, the passageways must be of adequate size to provide airflow of a rate and volume necessary to protect the stained glass. (See, e.g., Specification at pages 2, 4, and 9-11). Providing vents with pathways so narrow as to deter bug entry would conflict with the expressed need for sufficient air flow and volume.

Dependent claims 4, 16 and 23 have been separately rejected under 35 USC § 103(a) as obvious over the combination of Baier et al., Zoccole and Chludil. Claim 4

depends from claim 1 and claims 16 and 23 each depend from claim 9. As set forth above, and incorporated herein by reference, Baier et al. and Zoccole do not teach a "second directional turn." Chludil does not cure Baier et al. and Zoccole in this regard, as Chludil likewise does not teach "a second directional turn" as expressly required by claims 1 and 9. Hence, while rejected on separate grounds, claims 4, 16 and 23 stand or fall with their respective base claims.

To establish a *prima facie* case of obviousness, all of the claim limitations must be taught by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 57 CCPA 1029, 1032 (1970). Neither Baier et al. nor Zoccole nor Chludil teach a "second directional turn" as claimed. Because the cited references do not, individually or in combination, teach all of the requirements of the rejected claim, a *prima facie* case of obviousness has not been presented and rejection under 35 USC § 103(a) is improper.

#### Claims 3 and 7

As noted above, claims 3 and 4 each depend from claim 1, and claims 7 and 8 each depend from claim 6. Thus, if claims 1 and 6 are allowed, claims 3-4 and 7-8 will also be allowed. Appellant submits the following, independent grounds for appeal in the event that one or both of claims 1 and 6 are not allowed.

Claim 3 requires, *inter alia*, that the "first area equals at least one square inch for each about 2000 to 2500 square inches of ornamental window to be vented." Claim 7 similarly requires, *inter alia*, that the "sum of all said first areas is at least one square inch for every 2000-2500 square inches of ornamental window". As acknowledged by



Examiner at pp. 5 and 7-8 of the Final Office Action, the combination of Baier et al. and Zoccole does not teach this limitation. Examiner instead rejected claims 3 and 7 on the ground that the quoted limitation was "an obvious design choice." Appellant respectfully disagrees with Examiner and urges the Board to reverse this rejection.

Examiner's stated rationale for design choice in both instances was that "there clearly needs to be either larger vent openings or a larger number of vent openings to properly circulate the air through the airspace." Final Office Action at pp. 5, 8. Examiner referenced, at pages 15-16 of the Final Office Action, the

Protective Glazing Study submitted with the IDS [that] clearly shows that many different factors are considered when studying to find out if the ventilation is appropriate for the window. It goes on to talk about how there are different thoughts about the effects of the size of the window openings (page 98, paragraph 2). Further the study shows that "venting needs of particular windows may vary greatly. The amount of venting required is dependent on the window's micro-environment" and also "there are no set specifications to determine the exact amount of venting. One must use common sense, and be willing to constantly review the results of past work." (Page 99, Paragraph 5).

Admittedly, the Protective Glazing Study (Evidence Appx., *attached hereto*) shows the state of the art at the time it was published (1996). (See, e.g., Protective Glazing Study at Abstract). However, the present invention and, more specifically, the structure of the vents in combination with the specific ratio of the openings to the glass surface area, addresses many if not all of the uncertainties identified in the Study. In other words, Appellant has solved a problem that had heretofore been present in the art. Appellant's claimed vent structure and the appropriate opening to surface ratio overcomes the uncertainty and provides the "set specifications" the Examiner noted were not available in 1996. This is the essence of the invention described in claims 3 and 7.

The invention set forth in claims 3 and 7 represents not an obvious design choice but, rather, a solution to a long-felt need in the industry. Years ago it was recognized that stained glass needed to be protected from the elements as well as vandalism. Among several alternatives, installation of protective transparent panels was particularly popular. The aforementioned 1996 Study demonstrated, however, that the use of such protective panels with stained glass windows actually damaged the stained glass and its structural components over time. (See, *generally*, Protective Glazing Study at Section V, pp. 90-108). This damage was attributed to inadequate airflow between the protective panels and the stained glass, to extremes in temperature caused by a greenhouse effect, and to the presence of moisture that created a breeding ground for microorganisms. (*Id.*) Appellant notes that these issues are discussed, generally, in the Specification at Pages 2 and 4.

Missing in the art was a means to protect the stained glass from the elements and also from the damage inherent in the installation of protective panels in a manner that did not detract from the glass or its ornamental framing. As is evidenced by the Baier reference, "breather" systems were employed with dual glazing windows as early as 1991 but were not designed to satisfy the unique requirements of stained glass installations. Appellant's disclosure is specifically designed to do so.

Claim 4 depends from claim 3, and claim 8 depends from claim 7. For the reasons set forth herein, Appellant submits that the rejection of claims 3-4 and 7-8 under 35 USC § 103(a) was improper, and that the same should be reversed by the Board on appeal.

Rejections under 35 USC § 103(a) over Baier et al., Zoccole and Chludil

Claim 4

As noted above, claim 4 depends from claim 3, which in turn depends from claim 1. Thus, if either claim 1 or claim 3 is allowed, claim 4 will also be allowed. Appellant submits the following, independent grounds for appeal in the event that one or both of claims 1 and 3 are not allowed.

Claim 4 requires, *inter alia*, that the "entry vent opening is covered by a screen such that it has an effective first area of 66% such that said first area at least equals 1.66 square inches for each about 2000 to 2500 square inches of ornamental window." Examiner summarily concludes at page 12 of the Final Office Action that US Pat No. 4,656,803 to Chludil teaches this limitation, referencing only "Fig. 2". As with claim 3 discussed at length above, and from which claim 4 depends, Examiner again noted, at page 13, that "[t]he size of the vent opening in comparison to the ornamental window and protective panel was an obvious design choice."

Even assuming, *arguendo*, that the other requirements of claim 4 have been met, Appellant cannot agree that Chludil in combination with a 'design choice' discloses the quoted limitation expressly required by claim 4. Nowhere in the Chludil disclosure is any quantitative, dimensional or proportional information regarding the window or the screen member S, its plate 28 or its perforations 33. As discussed above regarding claim 3, and incorporated herein by reference, at least as recently as the 1996 Protective Glazing Study – which Chludil predates by nearly ten years – the art was replete with uncertainty. It is instead Appellant who provided the certainty Examiner would now attribute to the scant disclosure of Chludil.

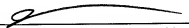
Because the cited references, individually or in combination, do not teach all of the limitations of the rejected claim, rejection under 35 USC § 103(a) was improper and should be reversed.

### CONCLUSION

In view of the foregoing arguments, Appellant submits that Examiner has not presented a *prima facie* case of obviousness that would support rejection under 35 USC § 103(a). As such, Appellant requests that the rejection of claims 1-9, 13, 15, 16, 21 and 23 in the present application be reversed, and that this matter be remanded to the Examiner for a prompt notice of allowance or other non-final action on the merits. Alternatively, Appellant requests that the rejection of claims 3-4 and 7-8 be reversed and that the case be remanded in the same manner.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-3021 belonging to BrownWinick Law Firm.

Respectfully submitted,

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ATTORNEYS FOR APPELLANT

## CLAIMS APPENDIX

1. An apparatus for venting ornamental windows covered by a protective panel comprising:
  - a) stained glass window;
  - b) a protective panel;
  - c) a framing element;
  - d) at least one airspace between said window and said protective panel;
  - e) venting means comprising an entry vent opening on the outside of the apparatus and an exit vent opening vertically spaced above and on the outside of the apparatus;
  - f) said entry vent opening comprising a first path causing a first directional turn upwards and a first interior vent opening vertically spaced above said entry vent opening and causing a second directional turn to said airspace, and said exit vent opening comprising a second path causing a first directional turn and a second interior vent opening vertically spaced below said exit vent opening and causing a second directional turn to said airspace for facilitating upwards airflow in said airspace.
2. The apparatus for venting ornamental windows as claimed in claim 1 wherein each said entry vent opening further comprises a first area, said exit vent opening further comprises a second area; said first interior vent opening comprises a third area and said second interior vent opening comprises a fourth area; said first path comprises a first cross sectional area; said second path comprises a second cross sectional area; said first area at least equals said first cross sectional area and said first cross sectional

area does not exceed said third area; and said second area at least equals said second cross sectional area and said second cross sectional area does not exceed said fourth area for facilitating adequate rate and volume of airflow.

3. The apparatus for venting ornamental windows as claimed in claim 2 where said first area equals at least one square inch for each about 2000 to 2500 square inches of ornamental window to be vented.

4. The apparatus for venting ornamental windows as claimed in claim 3 wherein said entry vent opening is covered by a screen such that it has an effective first area of 66% such that said first area at least equals 1.66 square inches for each about 2000 to 2500 square inches of ornamental window.

5. The apparatus for venting ornamental windows as claimed in claim 1 wherein said first interior vent opening is spaced vertically above said entry vent opening to prevent entry of rainwater into said air space.

6. An apparatus for venting ornamental windows covered by a protective panel comprising:

- a) a stained glass window;
- b) a protective panel;
- c) a framing element;
- d) at least one airspace between said window and said protective panel;
- e) venting means comprising a plurality of pairs of vent openings each said pair positioned in a vertical portion of said framing element with an exit vent opening spaced vertically above an entry vent opening, said entry vent opening directly to air outside the apparatus having a first area and

said exit vent opening directly to air outside the apparatus having a second area;

- f) each said entry vent opening comprises a first path causing a first directional turn and a first interior opening spaced vertically above said entry vent opening and causing a second directional turn and each said exit vent opening comprises a second interior opening causing a directional turn and a second path causing a directional turn; and
  - g) for each said entry vent opening, said first interior opening comprises a third area and for each said exit vent opening, each said second interior opening comprises a fourth area, each said first path comprises a first cross-sectional area and each said second path comprises a second cross-sectional area.
7. The apparatus for venting ornamental windows as claimed in claim 6 wherein for each said entry vent opening, said first area at least equals first cross sectional area and said first cross sectional area does not exceed said third area and a sum of all said first areas is at least one square inch for every 2000-2500 square inches of ornamental window for facilitating adequate rate and volume of airflow.
8. An apparatus for venting ornamental windows as claimed in claim 7 wherein for each said exit vent opening, said fourth area at least equals said second cross sectional area and said second cross sectional area does not exceed said second area.
9. An apparatus for venting ornamental windows covered by a protective panel comprising:
- a) a stained glass window;

- b) a protective panel;
- c) at least one framing element;
- d) at least one airspace between said window and said protective panel;
- e) venting means comprising at least one pair of vent openings each pair comprising an entry vent opening having a first area and an exit vent opening having a second area and spaced vertically above said entry vent opening;
- f) each said entry vent opening comprises a first proximal path causing a first directional turn and having a first proximal cross section, a first inside opening causing a second directional turn, a first distal path having a first distal cross section and a first interior opening vertically spaced above said entry vent opening all for allowing air to flow into said airspace and each said exit vent opening comprises a second proximal path causing a first directional turn and having a second proximal cross section, a second inside opening causing a second directional turn, a second distal path having a second distal cross section and a second interior opening vertically spaced below said exit vent opening all for allowing air to flow out of said airspace;
- g) said first interior opening comprises a third area and said second interior opening comprises a fourth area;
- h) said first inside opening comprises a fifth area and said second inside opening comprises a sixth area;



- i) for each said entry vent opening, said first area does not exceed said first proximal cross sectional area, said fifth area at least equals said first proximal cross sectional area, said first distal cross sectional area at least equals said fifth area, and said third area at least equals said first distal cross sectional area; and
  - j) for each said exit vent opening, said fourth area does not exceed said second distal cross sectional area, said sixth area at least equals said second distal cross sectional area, said second proximal cross sectional area at least equals said sixth area and said second area at least equals said second proximal cross sectional area for facilitating adequate rate and volume of flow to minimize the effects of extreme temperatures and of bacterial damage.
13. The apparatus for venting ornamental windows as claimed in claim 9 wherein said at least one framing element is a perimeter frame which holds only said protective panel and said airspace is defined by a separation between said protective panel and said ornamental window.
15. The apparatus for venting ornamental windows as claimed in claim 9 wherein at least one of said entry vent openings includes a debris deterring accessory.
16. The apparatus for venting ornamental windows as claimed in claim 15 wherein said debris deterring accessory is a screen.
21. The apparatus for venting ornamental windows as claimed in claim 13 wherein at least one of said entry vent openings includes a debris deterring accessory.

23. The apparatus for venting ornamental windows as claimed in claim 13 further comprising at least one screen proximal one of said entry vent opening for deterring entry of debris.

## EVIDENCE APPENDIX

Attached hereto is a copy of the Protective Glazing Study referenced in Appellant's Brief and entered by the Examiner as non-patent literature on November 14, 2007, according to PAIR and as referenced in the subsequent Office Action of December 26, 2007. For submission purposes, this evidence has been separated into nine (9) separate .pdf files:

- 1 Title, Abstract, Table of Contents
- 2 Section I, pages 1-20
- 3 Section II, pages 21-41
- 4 Section III, pages 42-55
- 5 Section IV, pages 56-89
- 6 Section V, pages 90-108
- 7 Addendum to Section V, pages 1-16
- 8 Section VI
- 9 Bibliography

## RELATED PROCEEDINGS APPENDIX

None.